



10.0 Open Space, Landscaping, and Site Lighting Design Standards

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10.0 Open Space, Landscaping, and Site Lighting Design Standards

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10.1. Purpose / Intent: Open space standards are intended to provide a balance between the built and natural environments in order to provide open space that can help relieve pressures from urban areas. Open spaces are also meant to maintain the vital, geological, and cultural link to the volcanic escarpment and the petroglyphs.

10.2. Applicability

10.2.1. This Plan differentiates residential, mixed-use, and non-residential developments.

10.2.2. This Plan differentiates developments by the following sizes: (1) less than 2 acres, (2) 2-5 acres, and (3) greater than 5 acres.

10.3. Detached Open Space Standards

10.3.1. **Purpose / Intent:** Detached open space is required to help provide relief from density to balance the urban environment of the proposed Major Activity Center. In addition, **detached open space** is intended to help preserve the integrity and fabric of this unique natural, cultural, geological, and volcanological area.

The detached open space requirements below are calibrated to result in desired development densities with enough open space to preserve **rock outcroppings** (see **Exhibit 10.1**), a buffer of 100 feet, and other **sensitive lands** as well as to create private parks and other civic and open space amenities through optional height bonuses in the non-Transition Zones. [The total acreage of the outcroppings plus a buffer of 100 feet is 70+ acres.]

10.3.2. **Detached open space** standards are a zoning regulation separate from any subdivision regulations, such as those associated with Impact Fees. The City calculates and tracks these fees and any associated credits separately. The detached open space standards shall not count toward Subdivision Impact Fee credits associated with **parks** and/or **open space**.

10.3.3. **Detached open space** standards are separate from the **usable open space** requirement.

10.3.4. **Detached open space** may be counted toward optional height bonus criteria. See **Section 7.3**.

10.3.5. **Detached open space** shall be provided via the alternatives listed in the City Zoning Code §14-16-3-8(A): (1) on-site, (2) dedication, or (3) cash-in-lieu. Dedications shall be for land within Volcano Heights.

10.3.6. **Residential or Mixed-Use Development:** Following the intent of the R-D Zoning per City Zoning Code §14-16-2-14(F) that these SU-2 zones have replaced in Volcano Heights, for all residential or mixed-use development, 400 SF of **detached open space** shall be provided per residential dwelling unit until the density threshold (i.e. dwelling unit per acre) per **Table 10.1** is reached on the site. This regulation and density threshold for each zone have been analyzed and calibrated to achieve a target open space acreage that can balance the density/intensity of proposed development as well as help to protect the **rock outcroppings** and **sensitive lands** within the Plan area.

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TABLE 10.1 – DETACHED OPEN SPACE: RESIDENTIAL USES

	VHTC	VHRC	VHVC	VHMX	VHNT	VHET	Total
Available Acreage*	61.2	89.1	10.8	162	28.8	54.9	406.8
Detached OS Requirement (square feet/dwelling unit)	400	400	400	400	400	400	400
Detached OS Requirement Cap (dwelling unit/acre)	40	20	30	30	6	6	—
Intended Resulting Detached Open Space Acreage**	22	16	3	45	2	3	91

* Total acreage minus Mandatory Roads minus 10% for usable open space

** For purposes of analysis only

TABLE 10.2 – DETACHED OPEN SPACE: NON-RESIDENTIAL USES

	VHTC	VHRC	VHVC	VHMX	VHNT	VHET	Total
Available Acreage*	61.2	89.1	10.8	162	28.8	54.9	406.8
Detached OS Requirement (square feet/30,000 SF building area)	2,400	2,400	2,400	2,400	NA	NA	400
Maximum Stories with Height Bonus	5	4	4	3	NA	NA	—
Intended Total Detached Open Space Acreage**	17	20	3	27	0	0	66

* Total acreage minus Mandatory Roads minus 10% for usable open space

** For purposes of analysis only

10.3.7. **Non-Residential Development:** Following the intent to preserve open space in Developing Urban areas per City Zoning Code §14-16-3-18, for all exclusively non-residential developments, a minimum of 2,400 SF of open space shall be provided for every 30,000 SF of building area. This regulation has been analyzed and calibrated to achieve a target open space acreage that can balance the density/intensity of proposed development as well as help to protect the **rock outcroppings** and **sensitive lands** within the Plan area.

10.4. Usable Open Space Standards

10.4.1. All sites in Volcano Heights shall provide a minimum of 10% of their site acreage as **usable open space** on-site with the following exception:
 (i) Usable open space is not required for mixed-use or non-residential properties if located within 1,500 feet of a **park, plaza** or other **usable open space** that is at least one acre in size and accessible to the public.

10.4.2. Up to 60% of the required 10% of **usable open space** may be transferred across property lines and/or pooled to create larger open space areas within the Volcano Heights Plan area. (See **Section 10.3 Detached Open Space Standards.**) In this event, the development and open space improvements shall be constructed concurrently.



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10.4.3. When phasing of a Site Development Plan is involved, each phase must meet the 10% **usable open space** requirement. Subsequent phases shall not be built until the preceding phase's usable open space has been built and/or landscaped. Under no circumstances shall the **applicant** be allowed to defer providing and developing the required open space for each phase.

10.4.4. **Required Amenities on Usable Open Space by Project Size**

- (i) **Projects 5+ Acres:** As part or all of their required **usable open space**, projects greater than 5 acres shall incorporate a publicly accessible **plaza/patio/courtyard**, or **amphitheater** a minimum of 5,000 SF in size. This may be counted toward an optional height bonus. (See **Table 7.2** for criteria, **Table 7.3** for standards, and **Table 10.3** for **private open space** standards.)
- (ii) **Projects 2-5 Acres**
 - a. **Residential:** Projects 2-5 acres in size that are exclusively residential development shall incorporate a recreational area or **playground** a minimum of 2,400 SF in size as part or all of their required **usable open space**, which can also count toward an optional height bonus. (See **Table 7.2** for criteria, **Table 7.3** for standards, and **Table 10.3** for **private open space** standards.)

b. **Non-residential or Mixed Use:** Projects 2-5 acres in size that are non-residential or **mixed use** shall incorporate a publicly accessible **plaza/patio/courtyard**, **amphitheater**, or roof garden at least 1,500 SF in size, which can also count toward an optional height bonus. (See **Table 7.2** for criteria, **Table 7.3** for standards, and **Table 10.3** for **private open space** standards.)

(iii) **Projects <2 acres:** Projects less than 2 acres in size may incorporate any combination of open space elements to satisfy the 10% **usable open space** requirement. (See **Table 10.3**)

10.4.5. A minimum of 40% of the required on-site **usable open space** shall be permeable to rainwater. This requirement may be met through landscape area, **permeable paving**, unpaved pedestrian walkways, etc. This area may be broken up on the site but shall remain accessible and intended for public use.

10.4.6. Any developed **usable open space** (i.e. **plaza**, **amphitheater**, **playground**, etc.) shall include a landscaped portion equal to a minimum of 40% of the on-site usable open space. A minimum of 25% of all **developed open space** shall be shaded from the summer sun with trees and/or permanent or temporary shade structures.

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- 10.4.7. All living material (i.e. plants, trees, etc.) shall be irrigated per DPM standards [reference needed]. If species are chosen from the Native Plant List in **Appendix E** in this Plan (see also **Section 10.6.8 on page 165**), irrigation may only be provided for the first 3 growing seasons or until the plant/tree is firmly established.
- 10.4.8. Planting strips required as part of the streetscape standards (see **Section 4.9**) shall not count toward the on-site open space requirement.
- 10.4.9. All open space amenities shall be privately owned and the responsibility of property owners/developers for the cost of construction, ongoing maintenance, and liability. These costs may be privately funded through homeowner or merchants associations. To be dedicated to the City for ongoing maintenance and liability responsibility, they must meet City standards and be acceptable to and accepted by the relevant City department.
- 10.4.10. Any **open space** amenity as provided per criteria in **Table 10.3** shall satisfy the 10% **usable open space** requirement. **Table 10.3** identifies whether each amenity is eligible for access by the public (i.e. civic open space), private only, or both.
- 10.4.11. For all non-residential or mixed-use projects, usable open space on-site shall be open and accessible to the general public, with the exception of balconies, porches, **courtyards**, and **community gardens**.

- (i) Private open space accessible by the public and intended for public use is defined by this Plan as **Civic Open Space**. Such open space is privately owned, controlled, maintained, and managed. The property owner retains all property rights and responsibilities, including the rights to limit the hours of accessibility and enforce rules of conduct, dress, etiquette, etc.
- (ii) All open space areas shall connect to public pedestrian walkways. If not easily identifiable from the **abutting** walkway, as determined by the Planning Director or his/her designee, signage must be provided to direct the public.
- (iii) A public access easement shall be granted to provide public access to **private open space** amenities.
- (iv) Private open space amenities accessible to the public shall be marked with a sign with contact information for the party responsible for maintenance and liability. [See **Table 9.1** starting on page 149 for sign standards.]

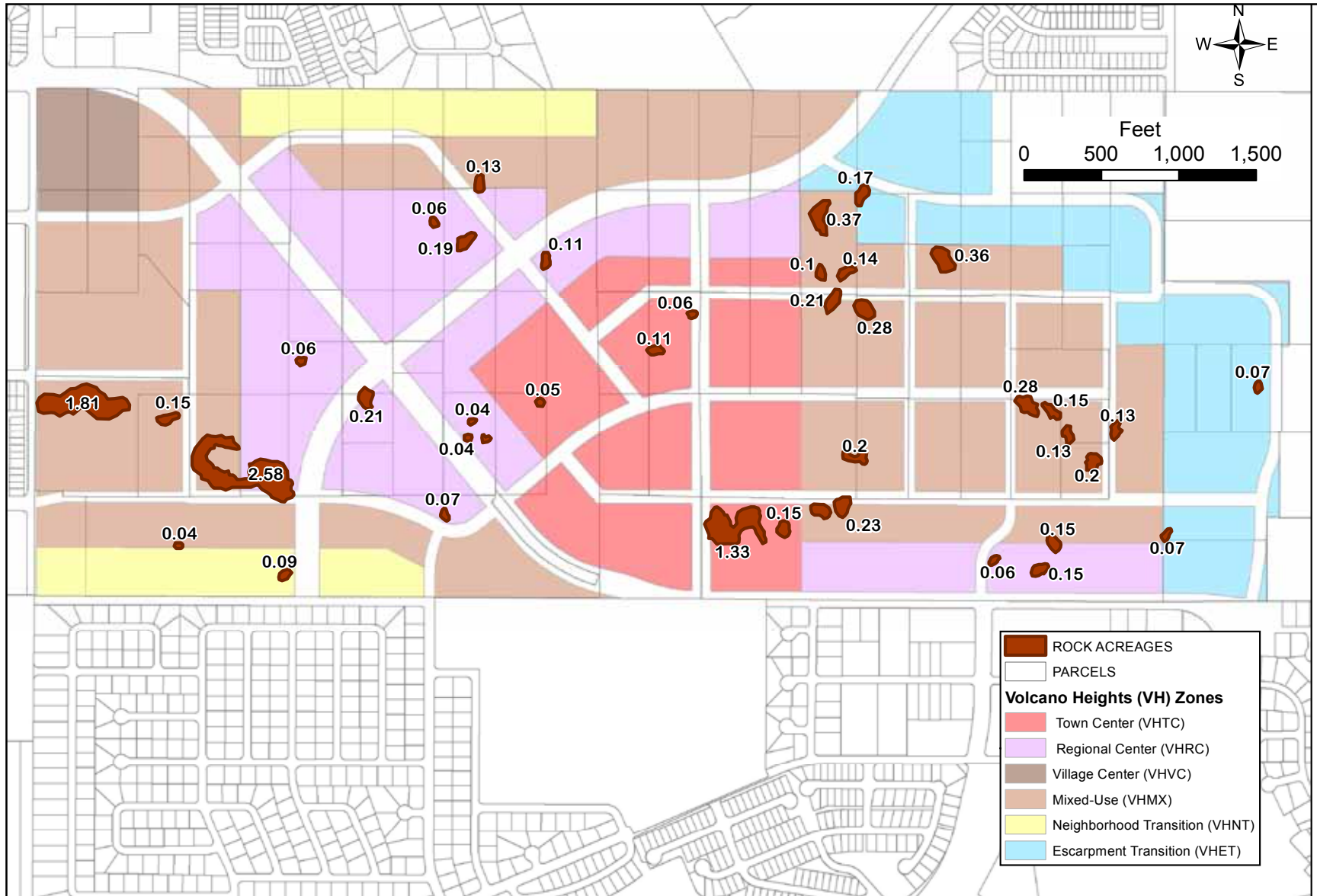
10.4.12. **Rock Outcroppings:** Significant **rock outcroppings** that are preserved shall count double their square footage as a landscaped area. [See **Section 3.5 on page 38** for definition and **Exhibit 10.1** for locations and sizes.]



CHAPTER II: REGULATIONS

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Exhibit 10.1 – Significant Rock Outcroppings [Updated east boundary and Park Edge Road update pending]

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10.5. Petroglyphs: Development, trails, and **recreation areas** shall be set back at least 50 feet from prehistoric petroglyphs or other sites with high archaeological value as identified by City Open Space Division and/or Planning Director, unless approved by Planning Director or his/her designee. This setback may be counted as **usable open space**.

10.5.1. No petroglyph shall be moved, altered, or defaced without written approval of a National Park Service representative from the Petroglyph National Monument in consultation with City of Albuquerque Open Space Division staff.

10.5.2. All other archaeological sites shall be protected or mitigated per City Zoning Code §14-16-3-20. Site treatment shall include preservation, avoidance, testing, or documentation of surface and/or subsurface remains and/or artifacts.

10.5.3. All **rock outcroppings** containing petroglyphs shall be protected per City Zoning Code §14-16-3-20.

TABLE 10.3 - OPEN SPACE CRITERIA

Private Open Space Type	Standards and Criteria	Access (Civic, Private, or Both)
(i) Amphitheatre	<ul style="list-style-type: none"> Size, scale, and architectural style shall complement adjacent development. Noise shall be governed by the City Noise Ordinance [Article 9 of Building and Safety: ROA 1994 Sec. 9-9]. Hours of operation shall be assessed on a case-by-case basis. 	Private
(ii) Ancillary Structure	<ul style="list-style-type: none"> See Gateway language for Ancillary Structures 	Both
(iii) Balcony	<ul style="list-style-type: none"> Balconies that are not flush shall be a minimum of 5 feet clear in depth and a minimum of 8 feet in width. Balconies may be semi-recessed or recessed. 	Private
(iv) Community Garden	<ul style="list-style-type: none"> Maximum size shall be 1 acre. To be considered for dedication to the City, community gardens shall be a minimum of 1 acre. Gardens may be enclosed by a fence on all open sides. Fences should be installed straight and plumb, with vertical supports at a minimum of 8' on center. Chicken wire may only be used in conjunction with another permitted fencing material and must be supported along all edges. <p><u>Fencing Materials:</u></p> <ul style="list-style-type: none"> Permitted: pressure treated wood (must be painted or stained medium to dark color), chicken wire, wrought iron, painted galvanized steel Not permitted: chain link, barbed or razor wire, vinyl, un-painted/stained pressure treated wood, plywood 	Both

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TABLE 10.3 – OPEN SPACE CRITERIA (Cont'd)

Private Open Space Type	Standards and Criteria	Access (Civic, Private, or Both)
(v) Courtyard	<ul style="list-style-type: none"> • Courtyards shall be surrounded on all sides by buildings with at least one pedestrian connection to an adjoining building or public sidewalk. • The courtyard shall be a minimum of 200 SF. • Courtyard may be landscaped or a combination of landscape and hardscape. However, they shall contain amenities for residents such as seating, water features, etc. 	Both
(vi) Forecourt	<ul style="list-style-type: none"> • A forecourt shall be surrounded on at least two sides by buildings. • A forecourt shall be a minimum of 150 SF. 	Both
(vii) Landscaped Traffic Circle	<ul style="list-style-type: none"> • Shall be designed and landscaped per City standards [ref needed]. 	Civic
(viii) Landscape Buffer	<ul style="list-style-type: none"> • [Pending] 	Civic
(iv) Park	<ul style="list-style-type: none"> • Parks shall be a minimum of 2 acres in size, with slopes no greater than 5 to 1. • There shall be street frontage with on-street parking on at least 2 sides. • Where a park abuts commercial uses on three (3) or more sides at the time of the park's approval, the property owner shall be required to provide a shared parking agreement with at least one (1) property owner on which a commercial use is located. Once constructed, the park's property owner shall provide signs visible to the public from the shared parking area explaining the terms of the shared use agreement. • Seating and shade covering at least 25% of the area shall be provided. • Co-location of drainage facilities shall be evaluated on a case-by-case basis. • Parks shall be built to City Standards and Specifications. 	Both
(x) Paseo	<ul style="list-style-type: none"> • [Pending] 	Both
(xi) Planting Strip (in addition to required streetscaping)	<ul style="list-style-type: none"> • Shall exceed required streetscaping by at least 25% in area. • Shall be compatible with required streetscaping in design and function. 	Civic
(xii) Permeable Landscaped Area	<ul style="list-style-type: none"> • [Pending] 	Both
(xiii) Playground	<ul style="list-style-type: none"> • Playgrounds shall be a minimum of 400 SF. • Landscaping shall be provided on 80% of the area.. • Seating and shade covering at least 25% of the area shall be provided. • Playground equipment and design shall be reviewed and approved by the City prior to installation. 	Both

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TABLE 10.3 - OPEN SPACE CRITERIA (Cont'd)



Private Open Space Type	Standards and Criteria	Access (Civic, Private, or Both)
(xiv) Plaza	<ul style="list-style-type: none"> Plazas shall be a minimum of 0.25 acre and maximum of 1 acre. Building frontages shall define these spaces. Plazas shall front on at least one (1) street, preferably at the intersection of important streets. The landscape should consist primarily of hardscape. Casual seating, along with tables and chairs, should be provided. 	Both
(xv) Private Open Space Amenities (pool, play courts, picnic area, etc.)	<ul style="list-style-type: none"> Such private open space may be incorporated with roof terraces or courtyards based on the appropriateness of the design and accommodation of privacy. 	Private
(xvi) Pedestrian walkway to Rock Outcroppings	<ul style="list-style-type: none"> Pedestrian walkways shall be asphalt, cement, or crusher fines stabilized with binder. Pedestrian walkways that connect more than one rock outcropping are eligible for additional bonus points. 	Private
(xvii) Recreation Area	<ul style="list-style-type: none"> [Pending] 	
(xviii) Roof Garden or Roof Terrace	<ul style="list-style-type: none"> A Roof Garden shall at least be 50% of the building footprint area. A Roof Terrace shall provide landscaping in the form of potted plants, seating, and other amenities for the users of the building. A Roof Terrace may also include a portion of the roof as a green roof which may or may not have public access. 	Both
(xix) Sidewalk width beyond that required by cross sections	<ul style="list-style-type: none"> Sidewalks at least 2 feet wider than required shall count as open space. Sidewalks shall not be wider than 14 feet, after which they shall be designed as a plaza or some other gathering feature. 	Public



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10.6. Landscaping Standards

10.6.1. **Landscaped Areas:** Landscaped areas shall be covered with a minimum of 75% living vegetative materials, such as trees, grasses, vines, flowers, and/or bushes/shrubs. Coverage shall be calculated from the expected average size of mature plants.

10.6.2. Walls & Fences Material Finishes & Design

(i) **Height & Placement:** Walls and fences shall not exceed a height of 36 inches where allowed within street-facing **setbacks** (except for columns that support arcades or trellises). Retaining walls in all locations shall not exceed 48 inches, unless approved by the City Hydrologist. Fences and walls shall not exceed a height of 72 inches inside required **setbacks** along rear and interior side property lines. Height shall be measured from the lower side on the public side of the side or rear yard.

(ii) **Adjacency to Monument and City Major Public Open Space:** Properties **abutting** the Petroglyph National Monument and/or **Major Public Open Space** shall use coyote fencing, post and wire (not barbed), or view fencing. View fencing allows for a general sense of openness, visual transparency, and passive surveillance, while still maintaining perimeter security.

(iii) Design & Prohibited Materials:

The end of walls shall have a pier or **pilaster** at least 12 inches wide to give a substantial appearance. In order to assure durability and minimize the visual impact of development, stucco and concrete shall have an integral color with a “light reflective value” (LRV) rating within the range of 20-50 percent. Wood board, cyclone, chain link, and razor wire fencing are prohibited.

a. **Perimeter Walls:** Exposed plain block, including all colors, is not allowed on walls visible from or **adjacent** to the public **ROW, private open space**, or private or public **parks**.

b. **Site Walls:** Block walls not visible from or **adjacent** to the public **ROW, private open space** or **Major Public Open Space**, or private or public **parks** must have integral color (i.e. plain, grey cement blocks are prohibited).

c. **Color:** Color shall be regulated per the NWMEP.

10.6.3. **Pedestrian walkways:** In surface parking lots, pedestrian walkways shall not extend more than 75 feet without one of the following features to provide shade, spatial definition, and pedestrian-friendly amenities:

- (i) arcades,
- (ii) trellises,
- (iii) shade structures, and/or
- (iv) trees.

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10.6.4. **Gateway Monuments:** Pillars or walls are permitted at entry points to neighborhoods and developments. Walls shall not be more than 12 feet long and conform with **Section 10.6.2** in this Plan. Pillars shall not be more than 3 feet wide and 10 feet high. Pillars and walls shall be stucco, masonry, rammed earth, adobe, native stacked stone (or synthetic equivalent), or straw bale. Exposed plain block, of any color, is not allowed. Stucco and concrete shall have an integral color other than grey.

10.6.5. **On-Lot Trees:** Where buildings are placed more than 10 feet from a street-side property line, at least one tree shall be planted per property within the street-side **setback**. Properties with a street frontage over 100 feet shall have a minimum of one tree for every 40 feet. Street trees shall be maintained by the property owner.

10.6.6. **Rainwater Quality and Management**

(i) All new developments shall incorporate **water harvesting** methods to supplement landscape irrigation. Water harvesting shall capture the first 1/2-inch of rainfall. Parking surfaces and other impermeable surfaces shall route rainwater through water harvesting areas on-site with 5% grade or less.

(ii) Where appropriate, development projects shall incorporate unobtrusive rainwater features that facilitate the detention and infiltration of rainwater and the filtration of pollutants from urban run-off. At all densities and intensities, appropriate techniques include:

- a. permeable pavers & concrete,
- b. infiltration beds placed below paved areas,
- c. stone-filled reservoirs and dry-wells,
- d. roof storage systems & cisterns designed with materials allowed by this Plan,
- e. small "rain gardens" (low-lying with moisture-tolerant grasses, wildflowers, shrubs, and trees), and
- f. vegetated swales (in **courtyards**, street medians, and planting strips).

(iii) Materials and treatments used for rainwater management shall be natural in appearance. Channels lined by concrete or rip-rap are prohibited, unless necessary for public safety.

(iv) The potential impacts of water retention shall be thoroughly studied prior to use of detention areas to control flows.

(v) Fencing of detention ponds shall be avoided. The bottom slopes of detention basins shall be designed for safety. In addition, a hydrological study and design may be required of new development by the City of Albuquerque to identify appropriate rainwater detention and energy dissipation features.



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- (vi) Within large unbuilt areas, developed flows shall be modified through check dams or other means to approximate undeveloped flows to minimize impacts on the Escarpment and to minimize the intensity of channel treatment required. The impact of check dams as a method of controlling flows shall be thoroughly studied prior to their use.
- (vii) Developed flows shall be managed to minimize their impact on **Major Public Open Space**, Northern Geologic Window, archeological sites, and the Escarpment.
- (viii) Developed flows into the Petroglyph National Monument shall not be permitted in excess of, or more concentrated than, natural flows and shall require approval by City Open Space Division in coordination with the National Park Service.
- (v) Developments that propose more than 4 feet of fill shall be required to go through the DRB for **approval** and require sign-off from the City hydrologist.
- (vi) All developments within the Impact Area as defined by the NWMEP shall be required to go through the DRB for **approval** and require sign-off from the City hydrologist.

10.6.7. Channel Design

- (i) **Purpose/Intent:** Improved naturalistic channel design shall retain as much undisturbed desert vegetation and rock formations insofar as practicable.
- (ii) Channel treatments shall meet the following requirements:
 - a. Limited stabilization of natural channels, according to the policies contained in the City of Albuquerque Facility Plan for Arroyos, unless such treatment is determined to be infeasible by the City Hydrologist or the Albuquerque Metropolitan Area Flood Control Authority (AMAFCA) as appropriate.
 - b. Use of many small, unobtrusive structures, such as check dams or small drop structures, rather than larger, more obtrusive structures, when structural solutions are required.
 - c. Use of materials in treated channels that blend visually with the Escarpment and **adjacent** open space. Naturalistic treatments are the preferred treatment types.
 - d. Protection of canyons from erosion through control of developed flows and through stabilization techniques that are consistent with the visual character of the open space.

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10.6.8. **Plant Lists:** The purpose of regulating plants is to reduce water usage, maintain the character of native plants now existing in the Petroglyph National Monument, and provide a harmonious landscape image. Landscaping within the Plan area shall be chosen from one of two plant lists, described below. Shrubs and trees shall be nursery grown. All properties in Volcano Heights more than 200 feet from public lands such as the Petroglyph National Monument or other **Major Public Open Space** shall use plants from Plant List A and/or B. Land disturbed in development shall be re-vegetated using the appropriate Plant List. (See **Section 7.5 Construction Mitigation** in this Plan.)

(i) **Native Plant List A:** Within 200 feet of public lands such as the Petroglyph National Monument or other **Major Public Open Space** areas, only plants and trees from Plant List A shall be used to limit impact of invasive and/or non-native plants on native vegetation. This Plant List includes plant species inventoried within the Petroglyph National Monument by the National Park Service in 1994-1995, including almost 200 plants (amended). This plant list is reproduced in full in **Appendix E**. Other properties may use Plant List A and/or B.

(ii) **Xeric Plant List B:** These plant species are the official xeric or low-water use plant list of the Albuquerque Bernalillo County Water Utility Authority (ABCWUA). The majority of the list is low and medium water-use plants. Some high-water use plants are also listed in order to classify them as such in implementation of the water conservation program. This xeric plant list is extensive and updated periodically by the ABCWUA. (See contact information provided in **Appendix E** to obtain the most current information.)

10.7. Site Lighting Standards

10.7.1. Lighting shall have a cut-off angle that directs light downward and only toward the property on which the light source is located, per the New Mexico Night Sky Ordinance [74-12-1 to 74-12-10 NMSA 1978]. Light fixtures shall be of a type that throws light downward and have baffles, hoods or diffusers so that no light point source shall be visible from a distance greater than 1,000 feet. On-site light poles shall not exceed a height of 16 feet. High-intensity discharge lamps and sodium lamps shall not be used.

10.7.2. All new developments shall provide pedestrian-scaled streetlights. See **Section 4.10** in this Plan.

10.7.3. Shoe box style lighting shall not be used, except in large parking areas. Metal halide lights are encouraged. High pressure sodium lights are discouraged since they visually render all colors the same.



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